

2003B133F-US
Response to OA dated 8 June 2006
Response dated 6 Oct 2006

REMARKS

Reconsideration of the above identified application in view of the amendments to the claims above and remarks following is respectfully requested.

Claims 1-57 and 60-65 are before the Examiner. Claims 1, 16 and 17 have been amended to include the catalyst system. Claim 17 has been put in independent form. Claims 30, 34, 35, 39-45 define the Lewis acid of claim 1. Claims 31-32 and 36-38 also have been amended to define the Lewis acids and further to correct an inadvertent mistake regarding the values of m and n. Support for the m and n changes is found in the numerous named Lewis Acids in the specification. It is also respectfully submitted that the ordinary practitioner in the art would readily recognize the inadvertent mistake. Claims 46-49 define the initiators. Claims 60-66 are new.

This invention is directed toward a novel and unobvious polymerization process wherein the diluent is HFC as defined in the application and the reactor for the polymerization process comprises a bayonet. This process' major improvement relates to the significant reduction in reactor fouling and also in reducing the use of methylchloride.

Claims 1-5, 16, 18-29, 35, 43-47 and 52-57 have been rejected under 35 U.S.C. § 103(a) being unpatentable over RU 2209213 (hereinafter RU '213) in view of Welch et al. (Hereinafter Welch). This rejection is respectfully traversed. It is respectfully submitted that RU '213 is not a reference, i.e. is not proper prior art, because the above identified application is entitled to the filing date of the priority document USSN 60/479,081 having a filing date of June 17, 2003. RU '213 has an effective publishing date of July 23, 2003. Being that the publication date of RU '213 is 36 days later than the effective date of applicants' priority document then RU '213 does not constitute a proper prior art reference against the instant claims. In the alternative, even if applicants' priority documents are not accepted by the Examiner, it is respectfully submitted that the instant claims are unobvious in the sense of 35 U.S.C. § 103 over the combination of RU '213 and Welch.

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Firstly, the undersigned will address the question of the failure of the combination of references to provide grounds for a rejection under 35 U.S.C. §103. The Claim 1 process, as now amended, requires as a catalyst system, a Lewis acid and an initiator in addition to the HFC diluent. The Examiner argues that RU '213 differs from the claimed invention essentially in the use of methyl chloride medium instead of a diluent comprising one or more HFC's. The Examiner then relies on Welch for the disclosure of HFC's and combines RU '213 and Welch so as to provide a rejection under 35 U.S.C. §103. Although the Examiner states the sole difference between RU '213 and the instant claims relates to the diluent, it is respectfully submitted that RU '213 differs from the claimed invention in not only failing to disclose HFC's but also in failing to disclose the combination of a Lewis acid and an initiator as a catalyst system for the polymerization of monomers. It is respectfully submitted that Welch fails to solve the deficiencies in RU '213. No where within the four corners of Welch is there any disclosure of initiators as recited in the instant claims. Furthermore, as the Examiner is well aware, when analyzing prior art, the proper inquiry is not whether a specific substitution was obvious, but whether or not the combination as a whole was obvious. Applicant's combination of a Lewis acid, an initiator, HFC's and a bayonette cooling system is neither disclosed nor suggested in the combined references.

The Examiner also states that BF_3 and $AlCl_3$ are mentioned in Applicants' claims 35 and 43-45. These claims define Lewis acids. As mentioned above, Welch does not disclose initiators as required by Applicant's claims. Withdrawal of the rejection is respectfully requested.

Secondly, it is respectfully submitted that the instant application has a priority date which is earlier than the publication date of RU '213, and hence RU '213 can not constitute a prior art reference. The description in RU '213 does not use the term "bayonette." In the same sense, Applicants' priority document does not use the term "bayonette." Nevertheless, at page 50, lines 27 and 28, page 51, lines 13-20 and throughout the priority document there is adequate description such that the ordinary practitioner in the art would recognize that a reactor comprising a bayonette is being described. Specifically the priority document, USSN 60/479,081, filed 6-17-2003, at page 50, 27-28 states "*In another aspect, heat can be removed by use of heat transfer surfaces, such as in a tubular reactor where a coolant is on*

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one side of the tube and the polymerizing mixture is on the other side..." and at page 51 lines 13-20 the priority document states "Preferred reactors also include reactors where the polymerization occurs on one side of a heat transfer surface and the coolant is present on the other side. An example is a reactor where tubes containing coolant run inside the reactor polymerization zone." One of ordinary skill in the art would recognize that this language describes reactors comprising bayonettes.

It naturally follows then that if the Examiner can read a bayonette into RU '213 then certainly the Examiner should read a bayonette into the priority document. As noted at paragraph [0054] of the instant application, a bayonette cooled reactor system is any system comprising a tubular reactor comprising one or more bayonette(s) used for the circulation of a cooling medium. The bayonette may be a tube or a plurality of bundle of tubes. Being an art recognized term, it is respectfully submitted the ordinary practitioner would know that RU '213 and the priority document describe a bayonette. It is therefore submitted that RU '213, having a later date than our priority document, fails as a reference.

The Examiner suggests that none of the earlier-filed provisional application support, in the manner required by 35 U.S.C. § 112 the entire subject matter of the invention as instantly claimed. The Examiner suggests that the concept of using a "reactor comprising a bayonette" is not found to be described, expressly or implicitly. It is respectfully submitted that such a position flies in the face of urging that RU '213 discloses a bayonette. The term bayonette is not found to be described expressly or (using the Examiner's words) implicitly in RU '213. Furthermore as described above, Applicant has pointed out specific language in the priority document that describes bayonettes, even if it does not use the word bayonette. It is submitted that if the Examiner implicitly reads bayonette into RU '213 then the same reading must be accepted in Applicants' priority documents.

Claims 6-15 have been rejected under 35 U.S.C. § 103 (a) as being unpatentable over RU '213 in view of Welch as applied above and further in view of RU 2097122 (hereinafter RU '122). This rejection is respectfully traversed. Firstly the Examiner states that RU '213 discloses a bayonette cooled slurry reactor system but does not disclose the heat exchanger tubes and catalyst system delivery tube as per claims 6-15. The Examiner suggests then that

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RU'122 discloses a polymerizer with a coaxially disposed shaft with stacked blade stirrers and heat exchanger tube bundles. The Examiner then combines these references with Welch suggesting this makes Applicant's claimed invention obvious. Applicant respectfully disagrees. As noted above the combination of Welch and RU'213 does not make the claimed invention obvious as Welch and RU'213 do not disclose the combination of Lewis acid, initiator, HFC and bayonette, nor is this combination suggested by the combination of the documents. Further the combination of Welch, RU'213 and RU'122 does not disclose the *specific* combination of Lewis acid, initiator, HFC, bayonette, and

- (a) a plurality of tubes, or
- (b) tubes comprising sectors, or
- (c) tubes comprising disks and baffels, or
- (d) tubes comprising sectors with spaces in between, or
- (e) tubes comprising baffels with holes, or
- (f) catalyst delivery tubes with an open end between tube baffels, or
- (g) catalyst delivery tubes with an open end toward a mixer, or
- (h) open ended catalyst delivery tubes, or
- (i) open ended catalyst delivery tubes pointed down toward a mixer, or
- (j) a mixer located next to a baffel.

Thus Applicant respectfully submits that the claimed invention is not obvious from the combination of RU'213, Welch and RU'122. Further Applicant re-emphasizes that in any event, RU'213 is not a proper prior art reference and thus cannot be used herein.

Finally Applicant notes that no reference of record shows the combination of a Lewis acid and an initiator, much less the required combination of HFC, Lewis acid, initiator and bayonette. Absent such disclosure it is respectfully submitted that the rejections should be withdrawn.

In view of the above amendments and remarks, it is respectfully submitted that the claims in this application present patentable subject matter. Prompt notice of allowance is respectfully solicited.

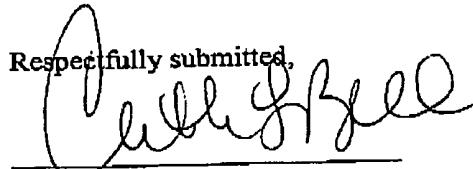
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Applicants invite the Examiner to telephone the undersigned attorney, if there are any issues outstanding which have not been presented to the Examiner's satisfaction.

10/9/06

Date:

Respectfully submitted,


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